

In order to use more unusual specimens or to provide safeguards for delicate documents, curators may have to use newly developed and innovative techniques, some of which are described in the following articles.

Douglas Stover

Preserving and Exhibiting Wet Specimens

Preserved lotuses on exhibit at the living natural history collection of water-lilies and lotuses, Kenilworth Aquatic Gardens.

Kenilworth Aquatic Gardens, a 12-acre sanctuary located in Washington DC, is the only unit of the national park system devoted to water plants. The pools contain cluster pink-tinged East Indian lotus, descended from ancient plants by way of seeds recovered in 1951 from a dry Manchurian lakebed. The seeds are estimated at 350 to 575 years old. The museum natural history collection included over 32 rare lotus plants of the W.B. Shaw collection. Walter B. Shaw was the founder of the gardens in 1880. He also planted a few native species from his home state of Maine.

Unfortunately, these plants are only available during blooming season, June to September. National Capital Parks-East has decided that it would be useful to preserve plant specimens for year-round display. Exhibiting or preserving natural history collections, however, has made it difficult to preserve plant parts in liquid without

having some degree of color loss.

A project funded by a grant from the Albright/Wirth Employee Development Funds allowed me to try a technique to preserve and exhibit water lilies and lotus flowers year around.

After traveling to London, and meeting with the Natural History Museum, the Royal Botanic Gardens Kew and Stapeley Water Gardens, Nantwich, United Kingdom, and looking at exhibits and the use of preservation of natural history collections and working with the National Museum of Natural History, Smithsonian Institution, I found the most difficult question is what fixatives should be used to preserve the natural appearance of the plant and flower.

The methods used to preserve and interpret the techniques of exhibiting wet specimens include the use of embedding in caroplastic. Preparing wet specimens in the preserving solution, selecting the jars and mold, embedding techniques, curing the mount, labeling the specimens, and coloring the plastic, became a team effort of the park staff consisting of the curatorial, natural resource staff, the park rangers, and maintenance. We found the caroplastic a successful solution to preserve the plant pigment of the plant. Below is the techniques of embedding of caroplastic and preserving solution that was used in this year-long experiment.

Kenilworth provides the best opportunity for the National Park Service to provide a major contribution with the addition of wet specimen to the natural history collection to allow researchers and park visitors to view the colors and the full preserved specimen.

Doug Stover is the Park Curator, National Capital Parks-East. He has assisted institutions in the United Kingdom and Germany with the preservation of wet specimens. If you have questions, call him at 202-690-5185, Fax 202-690-0862.



PRESERVING SOLUTIONS

1000 Ml – Formalin 10%
20 Ml – Citric Acid
10 Ml – L-Ascorbic Acid
5 Ml – Formalin Odor Suppressant
2 Ml – Fruit Fresh

EMBEDDING: CAROPLASTIC

- Soak in fixation for 24 hours.
- Wash water lily in clean tap water 3 times.
- Air-dry (towel) until surface moisture has evaporated, prevent shrinkage, or discoloration.
- Glass exhibit container, applied thin film of Mold Release.
- Mix 1/4 base layer of Catalyst with Caroplastic together.
- Mix Catalyst with Caroplastic and stir together.
- Pour 1/4" base layer, set aside and cover until Caroplastic is gelled (test by tilting mold).
- Mix second layer and place water lily into jar and pour mix.
- Allow to gel at cool temperatures (below 60%).
- Mix top layer 1/4", set aside and cover overnight.
- Curing, 3-5 days set aside at cool temperatures
- After hardened thoroughly, ready to sanding/buffing outer surface with wet sandpaper.